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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/069,306	07/03/2002	Donald F. Hooper	10559-303US1	1999

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EXAMINER	
PAN, DANIEL H	
ART UNIT	**PAPER NUMBER**
2183	

DATE MAILED: 04/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/069,306	HOOPER ET AL.	
	Examiner	Art Unit	
	Daniel Pan	2183	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 January 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,8,11,15-20 and 22-25* is/are rejected.

7)☒ Claim(s) *6,7,9,10,12-14,21* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

1. Claims 1-25 remain for examination.

2. Claims 1 ,15,16,20,22,24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moller in view of Bitar (5,872,963).

3. Claims 2 ,3,8, 17, 23, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moller et al. (4,868,735) in view of Bitar (5,872,963) as applied to claims 1,15,22,24 above, and further in view of Adkins (5,247,671).

4. Claims 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moller et al. (4,868,735) in view of Bitar (5,872,963) as applied to claim 1 above, and further in view of Adkins (5,247,671) as applied to claim 3 above, and further in view of Angle (5,541 ,920).

5. Claims 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moller et al. (4,868,735) in view of Bitar (5,872,963) as applied to claim 15 above, and further in view of Angle (5,541 ,920).

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moller et al. (4,868,735) in view of Bitar as applied to claim 1, and further in view of Adkins (5,247,671) as applied to claim 3 above, and further in view of Manning (5,610,864).

7. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moller et al. (4,868,735) in view of Bitar as applied to claim 15, and further in view of

Manning (5,610,864).

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Moller et al. (4,868,735) in view of Bitar (5,872,963) as applied to claim 1, and further in view of Adkins (5,247,671) as applied to claim 3 above, and further in view of Turner et al. (6,505,229).

9. The rejections are maintained and incorporated by reference the last Office e action on 10/31/05.

10. The response filed on 01/31/06 by applicant has been fully considered but is not persuasive.

11. in the remarks, applicant argued that :

12. a) Moller is directed to nested loops, not parallel loops.

13. b) Moller 's SWAP instruction merely caused certain control lines to be asserted , and it is not a program instruction capable of executed on a CPU-type device;

14. c) Moller's SWAP instruction does not include parameter to specify and did not suggest to wakeup the swapped out context;

15. As to a) above, a nested loop is a type of a parallel loop because the nested loop will eventually come back to the calling loop; that is while the nested loop is processing , the main loop is still in effect. If the main loop and nested loop were not in parallel , the nested loop would have to wait for the main loop to reach to the end. This is not the meaning of nested loop. Therefore, it would have been well recognized

by one of ordinary skill in the art to recognize the nested loop could be applicable as parallel loop. And, for this reason, Moller's loop is structurally and conceptually compatible.

16. As to b), Moller disclosed clearly his SWAP instruction was a microinstruction (see col.30, lines 39-44), Moller also taught the microinstructions were s store in a microprogramming memory [30] (see col.4, lines 61-64), therefore, Moller's SWAP microinstruction was a program instruction.

17. As to c), Moller did not specifically show the parameter for wakeup context. However, Adkins taught wakeup context (see col.8, lines 45-64). The reasons of obviousness were already given in the last Office action,. Therefore, it will not be repeated herein . Furthermore, Moller taught the activation of the context on the top of a stack by a selection signal caused by the swap instruction (see col.30, lines 39-44), which was a suggestion of the need of a function specific signal (e.g. wakeup, sleep, etc) into the swap instruction in order to achieve the enhanced context recovery or activation, and for the above reasons , provided a motivation. Moller is used as a primary reference because it clearly showed a swap instruction (see swap instruction) in col.30, lines 39-40). Adkins is used as secondary because it supplemented the teaching of the wakeup of the context.

18. Claim 6 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art of record further teaches the FBI

swapping and wakeup when the thread's FBI was received indicating the FBI CSR, Scratchpad, TFIFO, or RFIFO has completed.

19. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art of record further teaches the parameter "seq numl change/seq-num change" which specifies swap out of the current context and wakes it up when the value of the sequence number changes.

20. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior ad of record further teaches the voluntary parameter for swapping out if another thread is ready to run, and if the thread is swapped , the swapped thread is automatically re-enabled to run at some subsequent context arbitration point.

21. Claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art of record further teaches the auto-push for swapping out and wakes up when SRAM transfer read register data has been automatically pushed by bus interface.

22. Claim 12 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior ad of record further teaches

the parameter specifying kill for preventing the current context or thread from executing again until the. appropriate enable bit for the thread is set in the CTX ENABLES register.

23. Claim 13 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior ad of record further teaches the pci parameter for swapping out and wakes up when the PCI unit signals a DMA transfer has been completed.

24. Claims 14 , 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art of record further teaches the optional -token "defer one" for specifying that one instruction will be executed after this reference before the context is swapped.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dan Pan whose telephone number is 703 305 9696, or the new number 571 272 4172. The examiner can normally be reached on M-F from 8:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chan, can be reached on 703 305 9712, or the new number 571 272 4162. The fax phone number for the organization where this application or proceeding is assigned is 703 306 5404.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

21 Century Strategic Plan

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